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Edward P. Stringham, *Trinity College*
R. Gonzales, *Retired*

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The Role of Empirical Assumptions in Economic Analysis: On Facts and Counterfactuals in Economic Law

Edward P. Stringham and R. Gonzales

Abstract

How much of economic theory can be derived using pure logic and how much of it depends on empirical facts? In a provocative article, Hülsmann (2003) criticizes Mises and Rothbard for relying on empirical assumptions, ceteris paribus claims, and thought experiments in their analysis. Instead, Hülsmann proposes a counterfactual method that does not rely on any empirical assumptions and is said to produce universally valid claims. Upon inspection we find that many of his proposed laws are either inexact, incorrect, or must rely on subsidiary assumptions to be true. We conclude that the traditional approach of Mises and Rothbard appears to be more fruitful and true.

KEYWORDS: praxeology, apriorism, subsidiary assumptions, counterfactuals

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> "The method of imaginary constructions is indispensable for praxeology; it is the only method of praxeological and economic inquiry. It is, to be sure, a method difficult to handle because it can easily result in fallacious syllogisms. It leads along a sharp edge; on both sides yawns the chasm of absurdity and nonsense. Only merciless self-criticism can prevent a man from falling headlong into these abysmal depths." –L.V. Mises (1996:237)

1. Introduction

How much of economic theory can be derived using logic and how much of it depends on empirical facts? Most mainstream economists put an emphasis on empirics, whereas most Austrian economists put an emphasis on logic. In his 2003 article, "Facts and Counterfactuals in Economic Law," Jörg Guido Hülsmann argues that important aspects of the economic methods of Mises and Rothbard are both unrealistic and not aprioristic enough. Hülsmann (2003:96) criticizes Mises for "labour[ing] under the remnants of positivism in his thought. Mises was (so to say) not enough of a Misesian in methodology" and Hulsmann (2003:96) also criticizes Rothbard for his "inaccurate methodological reflection." Considering that Mises was one of the most outspoken advocates of apriorism (Mises, 1957, 1996) and Rothbard penned articles such as "In Defense of Extreme Apriorism," (1957) Hülsmann's claims are quite challenging and within five years of publication the article already has fifteen citations.[1] Hülsmann's main point of contention with Mises and Rothbard is their use of ceteris paribus claims, thought experiments, and empirical assumptions in logical analysis that makes much of their analysis devoid of universal validity.

Although Hülsmann definitely provides an interesting critique of the economics of Mises and Rothbard, we believe that the critique is misguided. Although we agree with much of his methodology, to the extent that it differs from that of Mises and Rothbard we believe the contribution is lacking. Our point is not that all counterfactual propositions are invalid or fruitless. Our point is simply that engaging in counterfactual analysis does not assure that one's statements are universally valid and it does not assure that the statements are fruitful. Inspection of Hülsmann's examples of universal valid laws show that many either empirically contingent or are simply incorrect. In fact, we see no evidence that Hülsmann's counterfactual method yields anything beyond that which can be derived from the Misesian logic of choice. Although we find Hülsmann's attempt to criticize Mises and Rothbard provocative, we believe that

[1] scholar.google.com,, accessed November 19, 2008.

the approach of Mises and Rothbard is more realistic and useful for making true statements about the world.

Our paper is organized as follows. Section II describes Hülsmann's counterfactual approach and highlights Hülsmann's points of contention with Mises and Rothbard; Section III discusses whether Hülsmann's counterfactual method helps him arrive at exact laws; Section IV analyzes his discussion of counterfactual tendencies; and Section V concludes.

2. Hulsmann's Counterfactual Approach in Economics

Hülsmann begins his article with a standard Austrian defense of apriorism and standard critique of logical positivism, discussing how economics is the study of human action. He argues that economists study the relationship between what actors choose and what they do not choose. Hülsmann (2003:57) maintains, "that a whole class of economic laws are counterfactual laws. They concern the relationship between what human beings actually do (their behavior, their thoughts) and what they could have done instead." Economists know that humans make choices but because they can only observe the seen and not the unseen, economics must use at least some logical analysis rather than all pure observation. The important question is whether anything empirical (in the broadest use of the term) is necessary or can play a useful role in generating economic knowledge.

Certain aspects of Hülsmann's approach are consistent with previous authors such as Frederic Bastiat (1848) who have talked about the seen and the unseen.[2] Hülsmann departs from traditional Austrians when he says that economists can and should practice without any empirical assumptions at all. This is in contrast to traditional Austrians who recognize a role for empirical assumptions. As Rothbard explained:

> Praxeology asserts the action axiom as true, and from this (together with a few empirical axioms—such as the existence of a variety of resources and individuals) are deduced, by the rules of logical inference, all the propositions of economics, each one of which is verbal and meaningful. (1962:75)

And in the words of Mises (1996:66) "All theorems of economics are necessarily valid in every instance in which all the assumptions presupposed are given" Statements in economics can be wrong if the logic is flawed or the assumptions are false.

[2] For a discussion of Bastiat and his relationship to modern Austrians see Caplan and Stringham (2005).

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Hülsmann, in contrast, urges economists to adopt his counterfactual method instead that does not rely on certain conditions being true. Hülsmann gives a few examples of universally true counterfactual laws and writes:

> Notice that, in the above examples, we did not qualify the counterfactual laws by stating our assumptions about the behaviour of all the other factors determining the state of the economy that we did not explicitly consider. In particular, we did not use the common qualifier of ceteris paribus. (2003:74)

Hülsmann believes that economists are in error to rely on subsidiary assumptions. Consider how Rothbard (1962:2) wrote that "further parts of the structure [in *Man, Economy, and State*]—are developed with the help of a very small number of subsidiary assumptions." Rothbard (1962:43) believed, for example, that we must make an empirical assumption when we say that "labor involves forgoing leisure, which is a desirable good." Rothbard (1962:43) writes, "It is a subsidiary assumption, based on empirical observation of actual human behavior. It is not deducible from human action because its contrary is conceivable, although not generally existing." To Rothbard, the key is not rejecting empirical assumptions, but having realistic assumptions.

Hülsmann, however, claims this whole approach is wrongheaded that means that the economic laws are not universally valid. He writes:

> *Either* economic laws refer to relationships between reality and the counterfactual, in which case they can be exact and apodictically true, *or* economic laws are supposed to describe reality in terms of other perceivable things, in which case there is no such thing as an exact science of human action. (2003:88)

Hülsmann maintains that economic laws must refer to "reality and the counterfactual" (comparing what happens and what does not happen) making them what he calls counterfactual laws, which are exact and apodictically true. He says that if one rejects this, one rejects having "an exact science of human action." He believes that giving statements such as "under this condition, these results hold," removes the universal validity of economic science. He also believes that because ceteris paribus conditions never hold, they add nothing to our understanding of the real world (2003:75).

Furthermore, Hülsmann criticizes the use of thought experiments that make unrealistic assumptions because those conditions never hold as well. Hülsmann writes:

> Among the most popular methodological views among Austrian economists is that economic reasoning discerns the laws of human action through *Gedankenexperimente* or mental experiments. This view, however, is untenable, as we will now proceed to show.

Hülsmann (2003:89-93) details and contrasts his approach with the traditional Austrian approach and argues that his is superior because he relies on assumptions that always hold:

> In the light of this fact, it is not difficult to decide which of the two methods is better. Both its realism and the principle of Occam's razor speak a clear language in favour of our elementary version of the counterfactual method. Still, it might be worthwhile to examine the question whether the method of mental experiments could at least in principle be used in economic science. Is it at least conceivable to perform mental experiments? In particular, is it possible to analyse some or all of the ramifications of a change "under the assumption that other things remain equal"? I contend that this is impossible in the sphere of human action. (2003:91)

The claims are bold, and if correct they should radically change the way both mainstream and Austrian economists practice.

3. How Exact are Hülsmann's Exact Counterfactual Laws?

Despite the novelty of Hülsmann's approach, we believe the approach is misguided. Although we agree that many praxeological statements can be reformulated in terms of counterfactuals, we see little evidence that this reformulation adds anything, and to the extant that it attempts to transform statements with empirical assumptions into universally true laws it may lead to error. Hülsmann (2003:87) claims "There is no question that counterfactual laws exists and are universally valid." We do not question the existence of valid universal economic laws but we question whether Hülsmann's examples are as universal as he believes.

Hülsmann gives eight examples of exact counterfactual laws. In our opinion, of Hülsmann's eight propositions: one may or may not be true but is not clearly specified, one is not a universal counterfactual derived from choice in a physically finite universe, two are fruitless tautologies rather than synthetic a priori laws, and four are arguably false. Let us consider Hülsmann's propositions one by one:

Proposition 1: "A person considers that the course of action that he follows is more important than alternative courses of action that he could follow instead." (Hülsmann, 2003:72)

Although Hülsmann believes this claim is non-empirical and non-contingent we believe it is actually debatable. Consider the following example: Ludwig offers Friedrich one of two copies of *Human Action* for Friedrich's $40.

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If Friedrich prefers either copy to $40, he will purchase one of them. From observing Friedrich's behavior, one can infer that he prefers that copy to the $40, but can one infer that he prefers that copy to the other? Both copies may be equally serviceable in Friedrich's mind.[3]

Proposition 2: "Wrong investment decisions reduce the welfare of the owner of the invested resources below the level it could otherwise have reached." (Hülsmann, 2003:72)

This proposition is true but not fruitful. Its truth follows from labeling an investment wrong if, and only if, it reduces the welfare of investors below the level it could otherwise have reached. The level of wealth the investor "could otherwise have reached" depends on the alternative courses of action and these include all other possible investments. At any point in time, any individual could be making better investment decisions, so should we say that the investment decisions are wrong? For example, most people did not know to invest in Microsoft in 1980 or did not know the winning lottery numbers for that matter so their investments were less productive than they could have been. If this is the standard, every person, with the exception of a few lucky people, are making wrong investment decisions.

Proposition 3: "The division of labour between individuals is more physically productive than autarkic production by each individual would have been; market exchanges benefit both partners because, at least when the exchange takes place, each of them prefers it to alternative courses of action." (Hülsmann, 2003:72)

This actually is two propositions, the first dealing with the division of labor and the second dealing with market exchange, and why Hülsmann puts them together as one law is unclear. First, the division of labor does not require market exchange (for example, a dictator could order his subjects to perform different tasks to make them more physically productive) and second, exchange can take place without a division of labor (for example, individuals could all perform the same task of collecting seashells and then exchange based on preferences).

More importantly, Hülsmann's statement on the division of labor is not a universally valid counterfactual. A division of labor is necessarily more productive, only when a relative difference in individual endowments exists. To show that heterogeneous agents may be unable to gain from trade consider an isolated community of two individuals Robinson and Crusoe, and two productive

[3] Our example is used with the sole purpose of questioning the universal validity of the proposition. It should not be inferred that we approve of the use of indifference curve analysis (Stringham, 2001; Stringham, 2007; Stringham and White, 2004).

activities, fishing and hunting birds. Suppose that in one hour Robinson can catch either four birds or two fish and that in one hour Crusoe can catch either eight birds or four fish. Even though the two parties are different, neither has a comparative advantage and therefore the division of labor is not physically more productive.

Of course, our world is quite different from this hypothetical community, so no Misesian would deny the explanatory value of the Ricardian law of association. The trouble with Hülsmann, however, is that he claims more than he prove. For his statement to be true "there are heterogeneous entities that compose our world" (2003:84), *and* these heterogeneous agents have differing opportunity costs. Even though such a matter is clearly true in the current world, the matter rests on (simple) corollary empirical assumptions and is not universal as Hülsmann tries to claim.

Proposition 4: "Each new product is an additional potential market for other commodities, so the owners of these other commodities are now better off than they would have been without the additional production." (Hülsmann, 2003:72)

Because the new product may reduce the exchange value of some of these other commodities, it is not clear to us why all the other owners of these commodities must necessarily be better off. So this proposition does not appear to be true. Perhaps we are misunderstanding what Hülsmann has in mind, in which case we wish Hulsmann's wording were more exact.

Proposition 5: "Increased saving makes possible a higher consumption in the future than would have been possible without this additional saving." (Hülsmann, 2003:72)

This proposition is clearly false. A low level of consumption today simply may reduce our capacity to produce and consume in the future. To give an extreme example, a society that saves everything and does not eat, will die and produce nothing in the future period. So increasing savings is not sufficient to increase consumption in the future.[4] Hülsmann could salvage the proposition by saying "under certain conditions…as long as people do not save too much…increased savings makes possible a higher consumption in the future" and

[4] An anonymous referee also suggests that increasing saving is not always necessary for increasing future consumption.

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he would be correct, but the universal law is no longer universal. His statement is true under certain conditions when certain empirical conditions are true.[5]

Proposition 6: "Increased saving diminishes present consumption." (Hülsmann, 2003:73)

This is not a fruitful proposition because its truth follows merely from the fact that an increase in savings is by definition, a reduction in consumption. As in the in the case of Proposition 2, even though something is true by definition, does not mean it is an economic law. In the economics of Mises and Rothbard, economics laws are a priori and synthetic, meaning they say something useful about the real world.

Proposition 7: "Government projects reduce the amount of capital available in all other industries, thereby reducing wage rates attainable in other industries below the level they would otherwise have reached." (Hülsmann, 2003:73)

This proposition is simply wrong. Consider a tax imposed on all industries that confers a disproportionate amount of benefits on specific industries. The spending may harm most people but it certainly has the potential to enhance the productivity of labor resources in some industry. For example, suppose a government road system led to more traffic and this increases the demand for truck drivers and mechanics. In that case the wages for truck drivers would increase. Does he mean to imply that capital is reduced in the truck industry as well?

A more fundamental error is that it ignores that government projects can also subtract labor from other industries and therefore can induce an increase in the wage that other industries will have to pay. We are not arguing that government spending is economically efficient but we question whether he believes that government spending reduces wages in all other industries. If he meant that government spending may reduce wages attainable in some other industries, then the proposition tells us nothing new.

Proposition 8: "Increases or decreases of the quantity of money do not increase the wealth of a nation above the level it would otherwise have reached, nor do they decrease its wealth below the level it would otherwise have reached." (Hülsmann, 2003:73)

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[5] Of course Hülsmann can always try to redefine savings to include the health, etc. of society members, but all this would show that valid statements can be easily generated by making them fruitless.

This is a peculiar claim. Suppose that the only money in the community is a valuable commodity such as gold. Does Hülsmann really believe that changes in the amount of gold will have *no* impact on wealth? This alleged law cannot be salvaged by limiting it to paper money for the simple reason that printing paper money consumes resources that could be used for other purposes. Increasing the supply of paper money decreases the amount of trees and that decreases wealth.

In addition to falling quite short of an exact law, the statement is troublesome because it sounds like a proposition about the neutrality of money. Austrian monetary theory clearly rejects the theory of monetary neutrality. Because new money is not injected equally in all sectors of the economy and because all prices do not rise proportionally, government monetary policy can lead to a serious misallocation of resources. Hülsmann's proposition notwithstanding, monetary injections do seem to have the possibility of decreasing real wealth.

4. Probable Counterfactuals and Counterfactual Tendencies

Hülsmann's track record for postulating universally valid exact laws is not good. Hülsmann's attempts to postulate universally valid tendencies[6] or case probable counterfactual laws elsewhere in the paper are no more successful. His proposition on the inheritance tax demonstrates the pitfalls of his "than otherwise" approach compared to the traditional *ceteris paribus* approach. Hülsmann (2003:82) writes, "Consider the law that higher taxation of inheritance reduces the amount of savings and, consequently, the productivity of the economy below the level it would otherwise have reached."

Again Hülsmann is trying to make a universally valid claim about something that is only true under certain conditions. Those conditions may be near ubiquitous but their likelihood is an empirical matter, not universal. The most important objection is that this alleged law is contrary to Rothbard's price theory. Rothbard is clear that changes in prices generate income effects in addition to substitution effects (Rothbard, 1962:573). When people are richer they often choose to consume more leisure and conversely when people are poorer they choose to work more. Changes in tax law can relative prices and income so they too can generate substitution effects, income effects, or both. People faced with high lump sum taxes are worse off but they may end up working more. Unless Hülsmann means something else by productivity of the economy besides output in an economy then his statement is false.[7] Future productivity depends also on the

[6] Counterfactual tendencies are when something pushes a variable in a certain direction, but that variable need not change (Hülsmann, 2003:76).

[7] Incidentally, the term "productivity of the economy" sounds dangerously aggregationist from a perspective Rothbardian welfare economics (Rothbard, 1956).

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quality of the future labor force, which maybe enhanced by higher present consumption or by the expectation of receiving less generous bequests. The incentive to acquire skills can be reduced by the expectation of a large inheritance, just as it can be reduced by a generous government welfare net. Finally a tax increase may enhance or diminish the willingness of individuals to save depending on how average and marginal tax rates are altered.

Hülsmann believes that "than otherwise" statements are more exact than statements with the *ceteris paribus* qualifier.[8] We, on the other hand, believe that Hülsmann's "than otherwise" approach is often less accurate because it basically attempts to disregard changes in all other variables. This can lead to certain pitfalls. The key for proper economic analysis is to know what variables can be disregarded (or held constant in one's analysis) and which ones cannot. In one's analysis, one can legitimately hold constant (disregard changes in) exogenous variables because actual changes in exogenous variables will be only accidental. It is not proper, however, to hold constant (disregard) endogenous valuables that will necessarily change. For example, when analyzing the effect of a wage increase on labor supply it is proper to hold productivity constant because changes in productivity are accidental to changes in wage. It is not proper, however, to hold constant worker earnings at his current level of work since this will necessarily change as wages increase. If one holds endogenous variables constant, then conclusions are not praxeologically probable. The conclusion may be in accordance with what is usually observed, but the conclusion is not universally valid.

A further potential problem with Hülsmann's approach is that it is unclear if one could even derive a demand curve. A demand curve is a thought experiment that asks, hypothetically at any given price how much would consumers want to buy. In Rothbard's (1962:233-249) derivation of the demand curve he holds every independent variable constant except the relative price. But would Hülsmann consider this thought experiment to be unrealistic and therefore untenable? Do we have to throw away supply and demand analysis as well?

The core of Misesian economics consists not of tautologies but of exact knowledge that emerges from the undisputable facts of human action. From here economists can use this core to postulate non exact but valid and useful economic propositions. One can legitimately qualify a statement "an increase in wages will lead to an increase in hours worked" with the qualifier "assuming income effects

[8] Hülsmann (2003:74) writes, "Hence, instead of qualifying economic laws by the ceteris-paribus clause, one merely has to clarify their counterfactual nature by adding the expression 'than otherwise.'"

are not large."[9] In addition to being praxeologically probable laws, these propositions are also probable in the sense that the predicted outcome may be frequently realized. This means that while the conclusions of the Misesian pure logic of choice are not falsifiable by the observation method, one should not be surprised to find that careful observation usually yields results in accordance with Misesian theory.[10]

5. Conclusion

We are glad that Hülsmann wrote his article and we believe that economists such as Mises and Rothbard should be criticized whenever they are wrong. We do not believe, however, that Hülsmann provides any reason to abandon the approach of Mises and Rothbard. In this article we only focused on the areas where Hülsmann disagrees with traditional Austrian economics, so the reader should not think we believe that a counterfactual approach is completely inconsistent with the traditional logic of choice. We agree that any proposition dealing with choice can always be formulated in a manner that makes explicit the fact that choosing requires forgoing some alternative or alternatives. Yet we are concerned with the productivity of the method given that we have yet to see a single exact or probable economic proposition that is both valid and novel.[11] We believe that the counterfactual approach fails to offer any more universal validity than standard praxeology and it actually leads to error by attempting to claim more than it can. As we have seen, one can still make errors in counterfactual analysis, and it is not clear what truths can be derived with the counterfactual approach that cannot be derived using the traditional logic of choice. Although good criticisms of Mises and Rothbard may exist, we do not believe that Hülsmann has found them. In the end we believe that the traditional approach of Mises and Rothbard is more fruitful and true.

[9] Rothbard (1962:567) writes that one of the reasons that the supply of labor is different from the supply of other goods is "derive[d] from the fact that laborers are human beings and—also an empirical fact—that leisure is always a consumers' good."

[10] The fact that the Misesian pure logic of choice is not falsifiable by data does not mean that Misesians cannot or should not be masters of historical research.

[11] It is conceivable that Hülsmann's method is basically sound and that he has simply failed so far to make good use of it.

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